International Journal of Gynecology and Obstetrics 132 (2016) 77–81

Contents lists available at ScienceDirect

International Journal of Gynecology and Obstetrics

journal homepage: www.elsevier.com/locate/ijgo

CLINICAL ARTICLE

Evaluation of parturient perception and aversion before and after primary cesarean delivery in a low-resource country

Abiodun S. Adeniran [a,*], Abiodun P. Aboyeji [a,b], Adegboyega A. Fawole [a,c], Olayinka R. Balogun [a,d], Kikelomo T. Adesina [a], Salamat Isiaka-Lawal [e]

[a] Department of Obstetrics & Gynecology, University of Ilorin/University of Ilorin Teaching Hospital, Ilorin, Nigeria
[b] Royal Care Hospital, Ilorin, Nigeria
[c] Anchormed Hospital, Ilorin, Nigeria
[d] Surulere Medical Centre, Ilorin, Nigeria
[e] Kwara State Specialist Hospital, Ilorin, Nigeria

ARTICLE INFO

Article history:
Received 23 January 2015
Received in revised form 12 June 2015
Accepted 17 September 2015

Keywords:
Aversion
Cesarean delivery
Delivery
Low-resource country
Parturient
Perception

ABSTRACT

Objective: To determine the perception of and aversion to cesarean delivery (CD) and their determinants before and after primary CD. *Methods:* A prospective cross-sectional survey of pregnant women undergoing primary CD (elective or emergency) was conducted in six health facilities in Ilorin, Nigeria. All participants completed an interviewer-administered questionnaire before the operation and 3–4 days thereafter. The statistical analysis included the calculation of odds ratios (ORs) with 95% confidence intervals (CIs) and a logistic regression. *Results:* Of the 254 participants, 182 (71.7%) and 53 (20.9%) had an aversion to CD before and after the procedure, respectively. A woman's personal decision was the overriding factor influencing acceptance of the operation. Preoperative predictors of aversion were prenatal admission (OR 2.86 [95% CI,1.07–7.66]; $P = 0.030$) and a history of previous surgery (OR 0.42 [95% CI, 0.24–0.75]; $P = 0.003$), whereas postoperatively a low number of prenatal clinic visits (less than four; OR 3.05 [95% CI,1.63–5.69]; $P = 0.001$) and a history of previous surgery (OR 0.51 [95% CI, 0.27–0.96]; $P = 0.034$) were significant. Postprocedure, 164 (64.6%) women said they would accept a repeat CD. *Conclusion:* Patient education, prenatal care, and previous surgical experiences were important in determining women's perception of and aversion to CD.

1. Introduction

Cesarean delivery (CD) remains the only alternative to vaginal delivery. At inception, CD was associated with high rates of maternal and neonatal complications; however, the risks have reduced significantly owing to improved surgical technique and anesthesia, effective antibiotics, and safer blood transfusion [1]. Nevertheless, CD is associated with a 5–7 times higher mortality rate [2] and a higher rate of puerperal morbidity [3] compared with vaginal delivery.

In Sub-Saharan Africa, there is a strong aversion to and an unfavorable perception of CD because of a desire for vaginal delivery, fears about the surgical operation, anesthesia, blood transfusion, and possible death, and the misconception that having had a CD precludes a future vaginal delivery [4,5].

The rate of CD has been on the increase globally. Factors associated with CD include a high educational level of the parturient, a high maternal age, history of a previous CD, and fear of litigation [6], although some women in low-income countries also request an elective CD [7].

Previous studies have evaluated the perception of or aversion to CD in women before delivery. The present study aimed at evaluating the perception and aversion before and after the procedure in the same group of women undergoing primary CD. The findings will help to identify the concerns of parturients and the effects of the procedure on attitudes toward CD, and will therefore assist in improving patient satisfaction.

2. Materials and methods

The present study was a cross-sectional multicenter survey conducted at six health facilities in Ilorin, North Central Nigeria; these included three public health facilities (two secondary hospitals [Kwara State Specialist Hospital and Civil Service Clinic and Maternity] and a tertiary hospital [University of Ilorin Teaching Hospital]) and three private obstetrician-supervised facilities (Royal Care Hospital, Anchormed Hospital, and Surulere Medical Centre). Multiple heath facilities were

* Corresponding author at: Department of Obstetrics and Gynecology, University of Ilorin, PMB 1515, Ilorin, Kwara State, Nigeria. Tel.: +234 80 5753 4788.
E-mail address: acrowncord@hotmail.com (A.S. Adeniran).

http://dx.doi.org/10.1016/j.ijgo.2015.06.045
0020-7292/

chosen to have a wide representation of women from different socioeconomic groups.

The study included pregnant women scheduled to have a CD (elective or emergency) irrespective of their age, parity, or indication for the procedure between March 1, 2013, and May 31, 2014. All participants underwent primary CD while women with a vaginal delivery or hysterotomy were excluded.

The calculation of the sample size has been described previously [8] and was based on the local CD rate of 14.08% [9], a confidence level of 95%, a degree of accuracy of 0.05, and an estimated attrition rate of 10%, giving a minimum sample size of 211.

All eligible women were informed about the study and informed consent was obtained. A purposive sampling technique was used in which all consenting women were recruited for the study. The participants' confidentiality was maintained by using codes instead of names and making the data accessible to members of the research team only.

The study procedures were in accordance with local and international ethics standards and with the Helsinki Declaration on human experimentation. The Ethics Review Committee of the University of Ilorin Teaching Hospital, Ilorin, approved the study before its commencement.

Each participating woman completed an interviewer-administered questionnaire designed for the present survey to evaluate the women's perception of and aversion to CD before the procedure. This was done immediately after the decision to undergo CD in emergency cases and a few hours before the procedure in elective cases. The concluding part of the questionnaire was administered by the same interviewer 3–4 days postoperation to evaluate the perception of and aversion to CD after the procedure. The interval of 3–4 days was chosen because, by that time, the women were expected to be sufficiently clinically and emotionally stable to give reliable answers with a good recall of the events. Trained interpreters who were fluent in English and local dialects assisted in interpretation during the interviews for women who could not communicate in English.

The collected information included demographic parameters, perception of and aversion to CD before the surgery, response when informed of the need to undergo CD, factors influencing acceptance of the procedure, type of anesthesia, maternal and fetal outcome, and perception and aversion after the procedure. The social class was determined as recommended by Olusanjo et al. [10]. Knowledge about CD was defined as the ability to recognize it as a surgical procedure to deliver the newborn through a cut on the abdomen.

The statistical analysis was conducted with SPSS version 20.0 (IBM, Armonk, NY, USA). The Pearson χ^2 test was used for comparisons, and odds ratios (ORs) and 95% confidence intervals (CIs) were calculated. Logistic regression analysis was performed using the Wald test and B coefficients. $P < 0.05$ was considered statistically significant.

3. Results

The study included 254 participants with a mean age of 31.89 ± 4.9 years (range, 17–43 years); 130 (51.2%) were multiparous (parity 2–4), 153 (60.2%) belonged to a low social class, 45 (17.7%) had been educated up to primary level or less, 210 (82.7%) had received some form of prenatal care, and 124 (48.8%) had a history of previous surgery (Table 1). The most common indication for CD was cephalopelvic disproportion (45; 17.7%).

In total, 237 (93.3%) women had knowledge about CD and 104 (40.9%) women accepted the CD without delay (Table 2). Maternal knowledge and motivation was the overriding factor influencing the acceptance of the procedure. The majority (250 [98.4%]) described their experience of the procedure as satisfactory, 164 (64.6%) said they would willingly accept a future CD, and 202 (79.5%) said they would encourage a friend to undergo CD (Table 2).

After the operation, there was a significant reduction in the number of women who perceived CD as being similar to a death sentence; fears surrounding anesthesia, possible harm to mother or infant, blood transfusion, or the surgical procedure were also significantly reduced ($P < 0.05$) (Table 3). The proportions of women who thought that having undergone a CD means that they need to have a repeat CD the next time they give birth or that a CD reduces the number of children they can have in the future was also smaller after the operation ($P > 0.05$).

Before the operation, 182 (71.7%) women were averse to having a CD (Table 4). Significant predictors for aversion to CD were a history of previous surgery (OR 0.42 [95% CI, 0.24–0.75]; $P = 0.003$) and admission during the prenatal period (OR 2.86 [95% CI, 1.07–7.66]; $P = 0.030$). After the operation, 53 (20.9%) women were averse to having a CD; significant predictors to aversion were a history of previous surgery (OR 0.51 [95% CI, 0.27–0.96]; $P = 0.034$) and a smaller number of prenatal care visits (OR 3.05 [95% CI, 1.63–5.69]; $P = 0.001$).

Table 1
Sociodemographic and clinical characteristics of the participants (n = 254).[a]

Parameter	Frequency
Age	
<20 years	1 (0.4)
20–24 years	13 (5.1)
25–29 years	63 (24.8)
30–34 years	102 (40.2)
35–39 years	58 (22.8)
40–44 years	17 (6.7)
Parity	
0	50 (19.7)
1	70 (27.6)
2–4	130 (51.2)
≥5	4 (1.6)
Social class	
Low	153 (60.2)
High	101 (39.8)
Level of education	
None	9 (3.5)
Primary	36 (14.2)
Secondary	75 (29.5)
Tertiary	134 (52.8)
Booking status	
Booked	210 (82.7)
Not booked	44 (17.3)
Timing of booking	
First trimester	40 (15.7)
Second trimester	117 (46.1)
Third trimester	54 (21.3)
Number of prenatal care visits	
<4	62 (24.4)
≥4	148 (58.3)
Not stated	44 (17.3)
Admission during prenatal period	
Yes	37 (14.6)
No	217 (85.4)
Previous history of surgery	
No	130 (51.2)
Yes	124 (48.8)
Minor	10 (8.1)
Major	114 (91.9)
Indication for CD	
Severe oligohydramnios	5 (2.0)
Lower segment fibroid	9 (3.5)
Cord prolapse	9 (3.5)
Medical disorders	9 (3.5)
Nonreassuring FHR	12 (4.7)
Contracted pelvis	13 (5.1)
Obstructed labor	18 (7.1)
Fetal macrosomia	19 (7.5)
Poor obstetric history	19 (7.5)
Abnormal presentation	20 (7.9)
Abnormal lie	22 (8.7)
Prepartum hemorrhage	25 (9.8)
Severe pre-eclampsia/eclampsia	29 (11.4)
Cephalopelvic disproportion	45 (17.7)

Abbreviations: CD, cesarean delivery; FHR, fetal heart rate.
[a] Values are given as number (percentage).